DO NOT ENTER: /D.S./

Docket No.: 1422-0706PUS1
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Shingo FUJII et al.

Application No.: 10/564,156 | Confirmation No.: 6018

Filed: January 11, 2006 | Art Unit: 1616

For: AEROSOL FOR CONTROLLING INSECT PESTS | Examiner: SULLIVAN, Danielle D.

DECLARATION UNDER 37 CFR 1.132

COMMISSIONER FOR PATENTS
P. O. Box 1450
Alexandria, VA 22313-1450

Madam:

I, Masaaki SUGIURA, residing in Hiroshima-ken, Japan, hereby declare and state as follows:

1. I am one of the co-inventors of U.S. Application Serial No. 10/564,156 filed on January 11, 2006, entitled AEROSOL FOR CONTROLLING INSECT PESTS. I am thoroughly familiar with the contents of said Application, its prosecution before the United States Patent and Trademark Office and the references cited therein.

2. I am a graduate of Mie University, Faculty of Agriculture and received a master's degree in the year 1982, majoring in entomology.

3. I have been employed in Fumakilla Limited in the year 1985 and have been assigned to the Research Laboratories.

4. I have been involved in the research and development of insecticide since 1985.

5. The following experiments were conducted by myself or under my direct supervision and control in order to clarify the feature of the particle diameter of the sprayed particles in the present invention, and obviating the difference with the aerosol described in Japanese Patent Laid-Open No. 2003-12422 (hereinafter referred to as JP '422).

2. EXPERIMENTATION

(1) Production of Aerosol

A mixture composed of the components listed in the following table was contained in an aerosol can having a content amount of 300 mL provided with an actuator without a long nozzle having an orifice diameter of 1.3 mm, to give aerosols α and β, the inner pressure (gauge pressure at 25°C) of which was adjusted to 0.15 MPa.

	Components for Aerosol Composition			Orifice Diameter of Actuator (mm)	Inner Pressure (MPa)
	Disinfestant Component (g)	Solvent (% by volume)	Propellant (% by volume)		
Aerosol α	Neopynamin forte/0.45	n-Paraffin/7.5	LPG/92.5	1.3	0.15
Aerosol β	Neopynamin forte/0.45	n-Paraffin/3.33	LPG/96.67	1.3	0.15

(2) Measurement of Average Particle Diameter of Sprayed Particles

An aerosol content was sprayed in a space at 25°C, and an average particle diameter of sprayed particles at a position having a straight line distance from an orifice of 50 cm or 150 cm away from an orifice was measured with a particle size distribution measuring apparatus (laser light scattering method, LDSA-1400A manufactured by Tonichi Computer

Applications Co., Ltd.).

3. Results and Discussion

The measurement results of the average particle diameters of the spray particles are shown in the following table.

	Components for Aerosol Composition			Average Particle Diameter (μm) of Sprayed Particles	
	Disinfestant Component (g)	Solvent (% by volume)	Propellant (% by volume)	50 cm	150 cm
Aerosol α	Neopynamin forte/0.45	n-Paraffin/7.5	LPG/92.5	44.48	25.40
Aerosol β	Neopynamin forte/0.45	n-Paraffin/3.33	LPG/96.67	45.80	19.43

Orifice Diameter of Actuator: 1.3 mm Container Inner Pressure: 0.15 MPa

Usually, the sprayed particles have the largest particle diameters at the point of spraying, the particle diameters gradually diminishing in size in the course of scattering. However, it can be seen in the aerosol α, β in which the orifice diameter of the actuator and the container inner pressure are as defined in the claimed range in the present invention that the sprayed particles have an average particle diameter such that the particle diameter is so large that exceeds 40 μm at a point 50 cm away from the orifice, and that the particle diameter is about 20 μm or so even at a point 150 cm away from the orifice. Further, the aerosol β has an average particle diameter of 19.43 μm at a point 150 cm away from the orifice, approximating the lower limit of the claimed range (19.1 μm) of the present invention, so that it can be supposed that the average particle diameter of the sprayed particles sprayed from the aerosol of the present invention at a point 50 cm away from the orifice would probably exceed at least 40 μm.

Therefore, it is evident that the aerosol of the present invention sprays particles having even larger sizes than those of the aerosol of JP '422 which is designed so as to spray

the particles having a volume-average particle diameter of from 20 to 40 μm at a point 50 cm away from the orifice.

Statement Under 18 U.S.C. § 1001

The undersigned petitioner declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

Masaaki Sugiura

Masaaki SUGIURA

2010. 2. 10

Date